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Cobham SATCOM
Lundtoftegaardsvej 93 D
2800 Kgs. Lyngby
Denmark

T: +45 39 55 88 00
F: +45 39 55 88 88
henrik.thordahl.nielsen@cobham.com

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Federal Communications Commission
Washington, D.C. 20554

Dear Sirs,

Re.: Federal Register/Vol. 77, No. 217/Thursday, November 8, 2012/Proposed Rulemaking

Cobham SATCOM (former Thrane & Thrane A/S) develops and manufactures mobile tracking VSAT terminals for the commercial maritime market. Currently we have two maritime tracking VSAT terminals on the market, both using a 1m reflector antenna.

We are currently developing new maritime products for the Ka frequency band (20-30GHz) using rotational symmetric parabolic reflectors in the 0.6-1.0m range. One of the main design goals is to meet the FCC requirements, including FCC 25.138 and FCC 25.209.

The currently used antenna design which includes a subreflector, do have some basic problems with meeting the Antenna Gain Patterns in FCC 25.209, especially in the +/- 48-85deg range. This is the region where the main power from the subreflector "spillover" hits. This presents no problem when using the Tx EIRP mask in FCC 25.138, but it is not clear whether we also have to meet FCC 25.209 for the Tx frequency range (29-30GHz) where the level will be a problem.

In FCC 25.138 (e) it is stated that FCC 25.209 must be met in the 20GHz receive band to ensure protection from adjacent satellite interference. To us it does not make sense to use an absolute gain limit mask for Rx. It should instead be a mask relative to the main lobe peak level. Furthermore it would also make sense to add some relaxations, similar to the EIRP mask relaxations as stated in FCC 25.138 (a) (3) and to increase the allowed level in the 48-85deg range to the level in the 85-180deg range.

Changing to a different antenna design with e.g. direct front feed or direct offset feed may solve the problems with spill over in the 48-85deg area, but this result in a dramatic increase in size, complexity and price of the 3-axis stabilized platform and radome.

To allow for a more optimum antenna design for maritime stabilized antennas we therefore propose the following:

- Clarify (e.g. in FCC 25.132) that for the Ka transmit frequency bands, only the EIRP spectral density limit mask in FCC 25.138 (a) (1) and (2) should be used. It does not make sense to continue to use FCC 25.209, when the protection of adjacent satellites from an earth stations transmitter is fully covered by the EIRP limit mask.
- FCC 25.138 (e):
 - Instead of referring to the FCC 25.209 gain limit mask for the receiver frequency bands, a new limit mask should be made for the receiver radiation

patterns. This new receiver antenna pattern limit mask could e.g. be relative to the antenna main lobe level and with relaxations similar to FCC 25.138 (a) (3).

- To open up for the use of optimum antenna designs for mobile tracking antennas, it is important to consider a relaxation in the region 48-85deg from the main lobe, e.g. by up to 10dB.
- Altogether it is proposed that the receiver antenna radiation pattern requirements should be completely reconsidered, of course bearing in mind that it is important to protect the earth station receivers sufficiently from adjacent satellite interference.

Like all other parties in the VSAT environment, operators, station manufacturers, etc., we fully agree that it is very important to make sure that the level of interference from any earth station equipment must be kept as low as possible. Having said that we also believe that it is important to ensure that the interference requirements don't put too hard requirements onto the earth station equipment without justification. This could result in the development of too expensive/complicated equipment and thereby limiting the market potential.

Henrik Thordahl Nielsen
Cobham SATCOM Antenna R&D